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ABSTRACT

In a series of meetings held over a period of three days, the National Commission on New Technological Uses of Copyrighted Works (CONTU) heard presentations, arranged by the American Society for Information Science, on information systems in general and on the operations of specific systems. The first presentation covered information storage and retrieval. Next a representative from the National Science Foundation described research and development in information handling. In a meeting at the National Library of Medicine (NLM) the commissioners heard about the evolution of medical information systems, current NLM operations, possible effects on NLM of proposed copyright legislation, and NLM resources and copying practices. Two legal information systems, LEXIS and WESTLAW, were described. Other reports covered automated journal production and the costs of such systems. The American Chemical Society's information programs were used to illustrate a professional society's approach to information. Discussions of information programs involving numeric data bases included legal protection of the information. A general discussion on the presentations and the future direction of the commission followed. (LS)

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ED127938

# NATIONAL COMMISSION

# ON

# NEW TECHNOLOGICAL USES OF COPYRIGHTED WORKS

Meeting No. 4

February 11-13, 1976

Linden Hill Hotel
Bethesda, Maryland

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

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IR003901

Commissioners Present:

Judge Fuld, Chairman

Mr. Nimmer, Vice Chairman

Mr. Cary

Mr. Dix

Mr. Hersey

Ms. Karpatkin

Mr. Lacy

Mr. Miller

Mr. Perle

Miss Ringer (nonvoting member)

Mr. Sarbin

Ms. Wilcox

Others Present:

Mr. Hamilton, Deputy Register of Copyrights

Mr. Levine, Executive Director, CONTU

Mrs. Morrisey, Library of Congress

Mr. Frase, Assistant Executive Director, CONTU

AGENDA

February 11, 1976
(evening meeting)

Information System Concepts and Applications - Current Status

Professor Martha Williams
Director, Information Retrieval Research Laboratory
Urbana-Champaign, Illinois

Information Systems - Concepts and Applications - Near Term Developments

Dr. Lee Burchinal
National Science Foundation

February 12, 1976

Operations of National Library of Medicine and Tour of Facilities

Dr. Martin M. Cummings
Director, National Library of Medicine

and
Melvin S. Day, Deputy librarian
and other NLM staff

Legal Information Systems - Mead Data Central - Lexis System - Talk and Demonstration

J. Rubin

Editorial Processing Centers

L. Berul
Aspen Systems

Economics of Computerized Information Storage and Retrieval Systems

Donald King
Market Facts, Inc.

February 13, 1976

The Total Information Programs of a Professional Society

Dr. Seldon W. Terrant
American Chemical Society

Information Programs Involving Numeric Data Bases

Charles B. Warden, Vice President
Data Resources, Inc.

Commission Discussion and Business Planning Subcommittee Report; Role of Commission in Software Protection; Future Meeting Schedule

SUMMARY OF THE MEETING

February 11, 1976:

1. After Judge Fuld's welcome to the Commissioners, Mr. Levine recalled the offer of assistance at the New York meeting from the American Society for Information Science, and he expressed appreciation to Melvin Day, President of ASIS and Deputy Director, National Library of Medicine. Mr. Day thanked the Commission for the opportunity of being of service. The ASIS is a society of some 4,000 members concerned with all aspects of information science. The business of CONTU is an important concern and ASIS is most anxious to be of service to the Commission. The following publications may be of interest to the Commission:

The issue of the ASIS Bulletin on telecommunications and data capture and transfer.

The Law, the Computer, and You

Journal of the ASIS

Annual Review of Information Science and Technology, with a chapter on copyright developments.

2. In a tutorial presentation Professor Martha Williams spoke on problems and factors associated with information storage and retrieval. Basically, this area involves publications -- the printing of books, abstracting of articles, and indexing. The introduction of machine-readable indexing journals produced by computers has brought some new problems because of the ease with which copies can be made. Publications can be distributed from and in microform and in computer-readable form, from which other micro-copies can be generated.

Data bases are used by:

the data base producer, who creates the tape and sells the retrieval service;

the processing center, which physically processes the tape, sells retrieval services, and enhances repackages products;

the broker, who buys tape services from a center and sells them. The broker adds to the original service by providing additional selection or evaluation.

Three types of users are involved:

the user who leases a data base;

the user who licenses tapes and sells a tape service, with royalties paid to the producer

the user who purchases a search service and pays royalties.

The producer performs the following tasks:

selection, acquisition, abstracting, indexing of data

conversion of data to machine-readable form

assurance of quality control, production, research and development.

Tasks at processing tape centers, involving secondary users, include:

design of system for handling information and accommodating many data bases;

determination of users clientele;

design, acquisition, and maintenance of software;

preparation of search questions, processing of searches, review and dissemination of output, and research and development.

Data bases have been generated or supplied by:

Federal Government (heaviest subsidizer)

State Government

professional societies

industry

ISI tape service
ADI

Factors associated with data bases show the complexity of the activities involved and the variety of content data bases may be:

discipline oriented (Chemical Abstracts, for example)

mission oriented (such as NASA)

problem oriented (housing, pollution, transportation, etc.)

interdisciplinary (chemical - biological)

multidisciplinary (Institute of Scientific Information's scientific and social science data bases)

Data bases may also be classed as:

bibliographic (journal and book references)

bibliographic-related (do not contain the references but have a tie to them; may contain index information)

full text natural language (such as legal data base)

numeric (census tapes)

representational (pictorial type of information)

Data bases vary with respect to:

subject coverage

type of source material

- journals
- monographs
- reports
- theses
- government documents
- patents

Coverage ranges from:

completeness - cover-to-cover (every article included in the data base)

selected articles

selected issues

Data elements are:

- author
- title
- reference
- terms
- codes
- cited references (average of 10)

Size and growth of data bases are determined by:

number of citations a year (3 - 4,000 new entries per year)

percentage increase in number of citations a year

size of records

obsolescence rate

Degree of correspondence of data base content with hard copy:

- one-to-one (no content difference between hard copy and machine-readable version)
- data base as subset
- hard copy as subset
- no correspondence between hard copy and machine-readable tape (such as MARC tapes)

Other kinds of criteria include:

- lapse time between publication and second source and data base
- indexing and coding practices
- availability of abstracts
- data elements included
- size and growth rate
- correspondence with hard copy (degree of completeness with hard copy)

Centers processing tapes are concerned with:

- consistency and quality control (reduction of error rate)
- ease of reformatting
- frequency of change
- notification of change (if the supplier makes a change, everyone using the tape has to be notified)
- compatibility with other data bases
- availability of documentation
- accuracy of documentation
- adherence to delivery schedule
- physical factors (areas where there can be variability)

Compensation to data base producer:

Some producers may sell data bases (usually only government; usually few ask for royalty)

lease fees for annual subscriptions to data

license fees for annual subscriptions to data

per hit royalty

per print royalty

percentage of gross income from searches

percentage of net income from searches

access fee for on-line brokers

lease fee for use of back files

license fee for use of back files

sale of subscriptions to hard copy

sale of user aids (dictionaries, indices associated with file)

sale of searches

sale of other products

Charges levied by processing tape centers are:

annual fee

one-time search

base fee

monthly fee

initiation fee

fees for writing search questions, training, connect time, revising profiles

data base use fee (hourly rate)

fee based on number of terms used

fee based on type of terms used

fee based on number of hits or prints

fees for manuals, lists, other user aids, postage, media use.

On-line searching is the most used today, either through terminals or by telephone line hook-up (such as NLM and OCLC systems). This arrangement permits more people to use machine readable data at a reasonable cost. The average search takes about 15 minutes.

Cost items include:

data base charge ($25 to $150 an hour)

communication ($10 to $15 an hour)
telephone; Tymshare network)

equipment ($150 to $200 a month for leasing of a terminal)

prints (10 to 35 cents per citation)

labor ($10 to $15 an hour)

Problems to be considered in on-line information retrieval are:

impact of resource sharing on independent enterprise

impact on finances of abstracting and indexing services

copyright; data rights; export/import tariff considerations

sharing resources between centers

education/marketing (cost and responsibility; who will pay? More costly to sell this type of service than to sell hard products)

licensing arrangements

3rd party users - brokers

access fee (legality -- analogy to book)

document availability

location
acquisition

lack of standards in files

government intervention with private industry in use of the files (the government may lease a file and then permit free searches, which hurts the private market)

Discussion after the presentation brought out questions on keeping unauthorized people from using the file (some security measures can be built into the system), cost structure, security of the contents of the file, differences between "data base" and "data bank" (interchangeable terms), number of data bases (about 200 publicly available bibliographic data bases covering almost all areas; about 50 are on-line; 60 numerical data bases; the mechanics of querying data bases (use of terminals or telephone lines), browsing, use of terms, searching routine, changing and merging data bases, batching, business relationships (by contract).

3. Lee Burchinal, Head, Office of Science Information Service, National Science Foundation, explained the Foundation's involvement in research and development in science and technology, including basic applied research resulting in journal articles, technical reports, and books. This literature is doubling every 8 to 10 years, thus placing a large burden upon communications enterprises. Sophisticated technology is therefore being increasingly applied to this problem, and changes are coming in the concept of pricing, marketing, transfer of rights to data, user behavior, etc. The technology makes it possible to get more for the dollars expended and to manage and transmit data more efficiently and effectively.

In addition to telecommuinications, this technology is now applied to printing, film conversion, and other forms of disseminating information. Parts of the technology are now used in most agencies, industries, and large libraries, and we can expect to see more and more integration of these tchnological applications. As this technology continues to evolve, changes in the way information is stored and used can be expected.

Changes in attitudes are also occurring. There is more acceptance of the principle of paying for information -- more realization that the user of on-line services will have to pay for part of the cost of such service. Industry has accepted this principle readily and pays for on-line indexing services, and the idea is beginning to spread in the academic and public library worlds.

In the field of journal publications, economic problems are increasing. The accelerating publication costs force higher subscription rates. At the same time, library budgets have leveled off, and libraries are diverting money from book budgets to pay for higher costs or periodicals. Journals are experiementing with shorter articles, synopses of articles, microfiche forms of publication. One future possibility might be distribution of such microfiche at centers. Various forms of fully electronic publication -- including arrangements that will permit brows -- will come later. The timing of their appearance will relate to reduction in telecommunications costs as use increases. The indications now are that as use builds up, economic advantages to information systems will increase.

A question was asked about fees for feeding material into the computer. It was explained that the existing practice is to get a license and pay for copyrighted material; much of the material is in the public domain; ethical operators would not convert copyrighted material to the computer without a license to copy. There is no market today for the full text of a copyrighted book -- most of the material involved at present is bibliographical data. Most of what exists in full text in machine-readable form is a byproduct of the publisher's printing of the material. About half of the material published is at some point in its life cycle in machine-readable form. Computers are being used more and more in the production process, and some tapes are destroyed after use.

The American Institute of Physics, a large publisher of scientific and technical information, uses the photocomposition process to capture the full abstract and references and input them into a data base before the full journal is distributed. The Institute holds the copyright and leases the use of the tapes of the abstracts.

In response to a question as to whether a non-copyright owner could put copyrighted material into the computer without getting consent, Mr. Burchinal indicated that this is not happening. "It is not an economically viable way to go."

There is some controversy today as to whether or not the 200-word abstract of an article can be protected under the full copyright arrangement, and whether copyright of an abstract is owned to the same degree as is the case with a copyrighted article or whether the abstract could be listed out as a surrogate. The Institute of Electrical Engineers in Great Britain is doing some of this, and others use the abstracts by rewriting a few sentences.

February 12, 1976:

4. At the National Library of Medicine, Judge Fuld thanked the Director, Dr. Martin Cummings, and the Deputy Director, Mr. Day, for the Commission's opportunity to meet in and to see such a beautiful facility.

Dr. Cummings reviewed the history of the National Library of Medicine and the evolution of its technical information activities, beginning with Index Medicus in 1879, MEDLARS in 1964 (the first computer-based bibliographic data base in a major library), the Toxicology Information Program in 1966 (dealing with the adverse effect of drugs and chemicals on man and his environment), the National Medical Audiovisual Center in 1967 (organizer and distributor of some 70,000 pieces of medical literature; located in Atlanta), the Lister Hill National Center for Biomedical Communications, MEDLINE in 1971 (conversion of MEDLARS to an on-line system).

The Medical Library Assistance Act, 1965, gave NLM the authority to make grants to the nation's medical libraries, provided

resources for equipment and training of librarians and information scientists, and called for the creation of a network of medical libraries linked to the National Library of Medicine.

The six operating programs of NLM are:

Library operations

Specialized Information services

National Medical Audiovisual Center

Lister Hill National Center for Biomedical Communications

Computer and Communications System

Extramural Programs

These programs, made possible by the Medical Library Assistance Act, support local and regional institutions and have resulted in the creation of a network of libraries to provide more efficient access by physicians and students every year. About 10 million dollars have been spent to build local resources close to the professional community; a number of core collections are now available throughout the nation, and resources at local and regional levels have been tied together. Only those materials which cannot be serviced regionally and locally are passed on to NLM as a court of last resort. This system has proved successful and cost-effective. NLM recommends this as the proper route to examine for other disciplines.

Dr. Cummings outlined NLM's fiscal operations. Of the present budget of 29 million dollars, about 14 million dollars supports institutions elsewhere. This support is provided by contract and by grants.

These increasing responsibilities and a 30 percent increase in workload in a 13-year period have been met with only a 2.2 percent increase in staff. This accomplishment has been the result of NLM's ability to introduce new technologies to assume many of the information-handling tasks of the institution.

The Board of Regents, appointed by the President, is an active policy group; the results of its deliberations and a variety of technical bulletins move into the 458 nodes in the NLM network.

In response to a question about possible modification of operations since the Williams-Wilkins decision, Dr. Cummings said that the decision for the moment left things as they had been. NLM will be prepared, however, to modify its operations as necessary if the present proposed revision of the Copyright Act is enacted. However, NLM will also be "stimulated to

seek other means of continuing to give the service that over 2 million users demand." This may require the lending of originals of material instead of facsimiles and thus the purchase of more originals.

In connection with questions concerned with compensation of copyright owners, it was indicated that half of the literature with which NLM deals is in the public domain. Dr. Cummings indicated that by policy NLM does not lend articles in the leading 100 titles in medical and related literature. Funds are provided to institutions at the local level to acquire these 100 titles. This reduces considerably the volume of requests serviced at NLM. Acquisition patterns in libraries are changing and NLM is becoming the sole source of certain documents. Dr. Cummings stressed that NLM's policy is to buy the number of originals of widely-used materials needed to meet the demand and to have a smaller number of copies of lesser-used materials.

If NLM should not be able to supply photocopies in lieu of originals, its operations will cost more because of mail costs, but it is contemplating this avenue in order to continue to meet its statutory responsibility "to protect the health of the American people." Data are not yet available in the cost of licensing vs. the cost of buying multiple originals.

NLM's use studies indicate that it can serve 85 percent of the requests from 300 titles (the number of publishers involved was not available). Yet, 21,000 serial titles are being acquired from foreign and domestic publishers producing medical materials. Depending upon use, titles may be acquired in 10 copies, 5, 3, etc. These acquisition costs run about one million dollars a year. The major additional cost, if copying should become prohibited, will be in postage rather than in purchase costs and the deterioration in timeliness of the service. At present NLM responds to 90 percent of requests within 4 working days. The mail turnaround time is far too long; with a decentralized system, through use of regional libraries and local facilities the service is faster. NLM does not intend to return to the outdated monolithic apparatus where everyone had to come to NLM at Bethesda.

Dr. Cummings described the resources within the NLM network:

9000 local hospitals, each required to have a library (3000 of these have good collections and librarians)

11 regional libraries (each with 3500 to 5000 serial titles)

125 resource libraries (located at medical schools, each holding about 1500 titles)

9 local medical libraries (each with a core collection of 100 to 300 serial titles to serve the need of that institution; used for patient care)

National Library of Medicine, 21,000 serial titles (it deals with rare and exotic materials). A serial is defined as a "recurring journal."

In practice the local libraries respond to 75 percent of the inquiries they receive, regional libraries to 85 percent, and NLM to 95 percent of the queries it receives.

5. Mr. Day then went into further detail about this national communications network in the United States. Each of the 11 regions has a library responsibility to respond to requests in that region. NLM acts as a regional medical library for the Mid-Atlantic region. Existing institutions are used in this regional network. This sharing of resources helps to insure that a requestor in a small hospital has as much access to medical information as a physician here. The only requests coming to NLM are those that cannot be handled in the region. This is based on the principle, established by legislation, that medical literature should be as close as possible to those who need it.

As for monographs regional libraries have several hundred thousand titles, resource libraries have about 100,000 volumes in their collections, local libraries have 50 current titles. There is some evidence of lower holdings of medical books but not of journals. Acquisitions money in many libraries is being shifted from monographs to serials. NLM has 650,000 monographs; it does not photocopy monographs. In response to a question about this policy, Dr. Cummings stated that NLM considers the "copying of a monograph as a violation of the intent of the Copyright Act." Mr. Day added that NLM views the book's purpose to be compensation of the author. In journal literature, the purpose of a published article is to enable a scientist or medical practitioner to share his research with his peers. Most scientists will pay page charges. Their compensation comes in having as many people see the work as possible. The authors of scientific journal articles write to share their knowledge with others, whereas the author's rights in books need protection. Not many authors of medical literature in journals are paid for writing and publication of their findings. It was estimated that more than 95 percent of the literature in medical journals brings no monetary compensation to the authors.

The New England Journal of Medicine is the largest medical journal; it is supported by subscribers. About 70 percent of all medical journals are owned by professional societies. Discussion brought out the fact that while books are more important for teaching and study, journals have a greater impact upon patient care. It was stressed again that NLM lends the original books, it does not copy from books or monographs unless they are in the public domain. These policies are developed by the Board of Regents and are reviewed annually. In connection with requests for copies of journal articles, a determination is made in each instance as to whether NLM will send the original or a copy.

Mr. Day moved on to NLM's initial Medical Literature Analysis and Retrieval System (MEDLARS), which produces periodical indexes and catalogs and permits literature searches. The basic publication,

Index Medicus, initiated in 1879, is issued once a month; each issue contains about 1000 pages of citations and indices to some 20,000 articles in 2400 biomedical journals. All the articles in these carefully selected 2400 journals are covered in Index Medicus. Each issue covers 20,000 new items, with the information about them fed into the computer. Cumulative issues are published each year. About 2 million articles were indexed in the period 1964-74. A group of outside experts determined the journals to be covered.

An abridged version of Index Medicus covers 100 of the most popular journal articles in the field of medicine.

The Current Catalog covers 25,000 monographic publications a year; this data also goes into the computer. Continuing bibliographies on special subjects are published by computer.

MEDLINE is NLM's on-line MEDLARS operating system; it is the largest on-line operating scientific information system today. Available throughout the country via telephone network tied directly into NLM's computer, MEDLINE serves users at 400 direct tie-ins and 600 remote consoles. The MEDLINE data base comprises some 500,000 citations to articles indexed from more than 3000 medical journals published in the last 2 or 3 years plus some data from special journals. Older material, as far back as 1965, is also on-line. (Manual searches are done for data published before 1965.) A structured vocabulary is used to facilitate searching. The user indicates which of the following data bases he wants to consult:

| | |
|---|---|
| Sdiline | - contents of next month's Index Medicus |
| Toxline | - toxicology information |
| Inprocess | - in-work cataloging |
| Serline | - journal location data |
| Catline | - catalog information |
| Backfile | - older MEDLARS file |
| Avline | - audiovisual information |
| Cancerline | - cancer information |
| Epilepsy | - epileptic information |

English-language abstracts are now going into NLM's data bases, with permission of publishers. These are printed abstracts that appear along with the publication; NLM does not create abstracts.

TYMNET placed NLM's computers in the TYMSHARE network. Other networks are also developing, such as TELENET-package switching, into which NLM is now tied. Nodes in Paris, Switzerland, United Kingdom, Canada tie directly into NLM's computer. NLM's data base and/or software packages have been placed by bilateral agreements in Stockholm, Germany, Australia, Brazil.

The Alaska Experimental Telecommunications Project and an experiment involving medical centers at Dartmouth College in New Hampshire and the University of Vermont bring medical aid via audiovisual media to

those who need it in remote areas. NLM's National Medical Audiovisual Center is now responsible for coordinating a national program concerned with the production of teaching packages and with continuing education.

A demonstration of the on-line systems showed the use that is made of data bases built on careful indexing by about 100 people scattered throughout the world.

A tour of the NLM library showed 2 coin-operated copying machines in the public reading room, installed as a result of increasing mutilation of journals by clipping of lists of references, table of contents, and sometimes articles. (the mutilation has been reduced since the installations.) The History of Medicine Division is used primarily by scholars working with materials written or published before 1870. The computer room was in operation.

6. LEXIS, an automated legal information system, was described and demonstrated by Jerome Rubin, President, Mead Data Central. This national computer-assisted legal research service permits easy dialogue between lawyers and the data base and full text retrieval. "The search logic has been carefully formulated to aid a lawyer in devising simple or complex search requests with a high degree of precision. The lawyer can search for cases, statutes, and regulations by typing onto a special keyboard any words, phrases, numbers, or symbols that are likely to appear in relevant legal material." The results are displayed on a CRT screen or printed out by a hard-copy printer.

LEXIS provides computerized access to full original texts of the law. The service uses an IBM 370/155 computer in Dayton, Ohio, with a duplicate available as back-up. With over 10 billion bytes of mass storage, consisting of 3330-type direct access disks, it is one of the largest commercial mass storage installations in the world. The software has been specially designed to permit efficient searching of large textual data bases. Over 90 percent of all search requests are handled in less than 15 seconds.

The LEXIS data base involves several parts (called "libraries"), each covering a discrete body of law. These are:

General Federal Law -- the U.S. Code, decisions of the U. S. Supreme Court, Courts of Appeals, District Courts
Federal Securities Law
Federal Tax Law
Federal Trade Regulation Law
Illinois Law
Kansas Law
Missouri Law
New York Law
Ohio Law
Pennsylvania Law
Texas Law

"These libraries constitute the largest collection in the world of full-text legal materials available for computer-assisted research. ... The federal case law files, for the time periods spanned by their contents, are the most complete collection of federal cases available in any form. ..." Enlargement of the data base is a continuous process. Case law files are being expanded to include older decisions, and California law, Massachusetts law, and Delaware corporation law will be available in the next few months. There is also a library of accounting materials sponsored by the American Institute of Certified Public Accountants. The system is constantly being expanded to include new decisions; some 1-1/2 million words are being added each week.

Subscribers include individuals, law and accounting firms, State and Federal courts, government agencies, law schools. Especially useful in massive or complex litigation, LEXIS "is a powerful tool for legal research."

A film showed how the computer executes full-text retrieval and organization of the data in the computer. A concordance lists alphabetically important words used in the full text and the "address" for each appearance of the word in the text. By scanning the concordance the computer identifies cases in which the word occurs, narrows the search to a specific case, and gives the full test. The use of synonyms makes the search more comprehensive; the effective use of LEXIS depends upon effective use of the legal vocabulary.

A live demonstration brought listings of cases concerned with copyright and fair use since 1970 and included the names of Commissioners Fuld and Nimmer.

Questions dealt with copyright matters (Mead Data Central has entered into some agreements with publishers on the use of copyrighted works), billing for and costs of LEXIS service (there are three private use packages -- one for the user who makes no minimum commitment; one for the user who agrees to use $1000 worth of time per month; and a third for the user who commits $2500 use of time per month; the terminal costs $220 a month and communication packages are priced at $280 a month; in-peak rates currently are $85 an hour for the heavily committed user; $95 an hour for the $1000-a-month user; $120 an hour for the user making no minimum commitment; thus, rates vary according to quantity of use), content of data base (only materials in the public domain are input into the data base [opinions are not copyrighted]), differences between LEXIS and the West Publishing Company's system (West's data base consists of head notes, digest entries, rather than the full text of the opinion), training (over 11,000 lawyers, judges, and tax accountants have been trained to use LEXIS), availability to law libraries and their users (a few law libraries subscribe; they price the service as they wish, probably adding a small amount to the price they pay).

7. WESTLAW, The West Publishing Company's Legal Information System, was presented by A. Ginnow, who indicated that 43,000 opinions were reported last year in this national system and 20,000 corrections (updating) were made in original reports. An editorial staff of 40 lawyer-editors read and analyze each opinion, prepare headnotes which

are classified by topics and published in alphabetical topical arrangement. The coverage has more than doubled in the last 25 years and is rising every year.

These principal indexes to reported case law are also being captured into machine-readable form, although the digest system is being continued also because only a small number of lawyers have access to a computer system. The computerized system features the West key numbers, with the computer retrieving any document having one or more of the key-words used in the query. The system permits the user to ask his query in natural language (he is not required to use the "and," or "but not" of Boolean logic). The flooding of a user with many irrelevant documents is avoided by a unique ranking feature -- the first display on the screen, in response to a query, is the document having the most words used in the query; experience has shown that one should look at the first 25 documents displayed. If the search is not satisfied by then, the user has a unique question on which there is no precedent or he or she should rephrase the query to get the relevant material. A printer is available to print out anything appearing on the screen.

Questions centered on the key numbering system (key numbers can be combined with key words in queries; also queries can give citations or names of cases), coverage of court cases, definitions (West defines "document" as a headnote; LEXIS defines "document" as a case), and policy problems (almost all systems have some possibility of "abuse," but there are security measures that reduce this possibility).

8. The study on the feasibility of using automation to reduce costs and increase efficiency for publishers of primary scientific journals was discussed by L. Berul, Vice President, Aspen Systems Corporation. Because of rising costs, the professional journal has had mounting problems, and the increase in copying is a further threat. To stay alive, some journals have reduced quality, raised subscription rates, introduced advertisements, adopted a policy of page charges, and turned to computer-production. The latter is occurring more and more because of increased labor costs, obsolescence of hot lead equipment, greater acceptance of computers, and lowering of computer costs (the cost of photo-typesetting devices has been dropping).

As these changes occurred in large publishing houses, it has become clear that there is a need for some form of cooperative effort to enable smaller organizations to participate in computer-production. The result has been the development of the concept of Editorial Processing Centers and a procedure whereby manuscripts can be typed by authors on an electric typewriter, with copy scanned by an optical character reader, then put into magnetic type at the Center. One Center may work with 4 to 12 journals.

Byproducts and economies realized from this practice are:

- Capture of the manuscripts in machine-readable form at the earliest stage;
- On-line computer-assisted text editing;
- Advance search of the data base before publication of an article;
- The data base becomes an alternative to more expensive traditional publishing.

With National Science Foundation funding the Aspen Systems Corporation has been experimenting with these possibilities and is collecting data on the effectiveness of this concept. The functions of the Editorial Processing Centers involve:

manuscript tracking

reminder notices

machine-readable author input

reviewer selection aids

bibliographic composition

optical reader scanning

computer aided indexing

on-line text headings

provision of management data

photo-typesetting

generation of voice response

Experience with the optical character reader has shown a low error rate; its principal application has been in connection with credit cards and utility bills; it is simpler and less expensive than "bar" coding.

Cost analyses indicate that as the number of journals produced through a Center increases, the Editorial Processing Center can provide significant dollar savings. The Aspen study concluded that such Centers are technically and economically feasible and offer a computer facility that can be shared by authors, editors, technical reviewers, and publishers along with a variety of user groups. The Center can make available full-text, machine readable data bases of manuscripts, which in turn can be indexed, abstracted, stored and retrieved, translated, and typeset for publication.

9. A "look to the future" was provided in the evening session by Donald King, Director, Center for Quantitative Sciences, a division of Market Facts, Inc. He reported on costs associated with preparation and publication of scientific and technical journals -- reading, library activities writing of articles, bibliographic searching, typing, setting of type, proofing, correcting, printing, distribution, et cetera. The total costs are rising rapidly because of the increasing number of scientists who are writing and the rising number of articles being written, as well as because of continuing inflation. The number of journal articles is directly related to the number of scientists and engineers -- about 2 million now in the United States. To date there are few new ways of publishing other than photocomposition and some of the search and retrieval operations.

Because a significant portion of research and development funds goes to pay for rising publishing costs, a number of studies have been done to try to see how such costs can be reduced. Mr. King reported on the careful look taken at various elements figuring in such costs -- typesetting costs, printing costs, distribution costs, the cost of gaining access to information. Some study has been directed at identification of the costs incurred by society, including library services costs and the degree to which costs can be reduced by publishing by computer. There has not been as much concern yet in the studies about the quality of the product -- the emphasis has been on the techniques of information retrieval rather than with the product achieved by such applications. The suggestion was advanced that screening for quality will need to come before a manuscript is put into the computer for printing. Mr. King felt that the need for economies will force publishers to begin to look at quality of the product more carefully, although he recognized that quality books are not necessarily profit-making.

A study concerning photocopying costs was described. On the basis of a sample of cited articles, letters were written to authors to ask how they noted and got access to those articles; 20 percent had subscriptions to the journals; 52 percent got access through the library; 12-14 percent sought permission from authors to get preprints or reprints. A large number of the articles had been photocopies. The dollar increase in photocopying has been rising steadily, although the increase in the amount of photocopying has not been in proportion to the total number of accesses. In 1968 44 percent of the accesses to cited journal articles involved photocopying; in 1974 the figure was slightly lower -- 40 percent. The reason for the decline: more libraries are beginning to charge for photocopies, and those that have always charged are advancing their fees. The average age of the articles cited is about 4 years.

A National Science Foundation-supported study indicates that equipment costs have been going down as the amount of equipment in use increases, and the amount of information being photocopies is rising, although the proportion of photocopying in relation to publishing is going down slightly. The studies indicate that the dominating cost in computer publishing is the input cost. As the number of searches of a data base increase, the costs drop.

Mr. King's conclusion from these and other studies is that as economic pressures on publishers and librarians accelerate, there will have to be more use of tapes in photocomposition. When more information is captured in computerized form, the user will ask for copies directly from the computer. A consequence will be more articles obtained from the computer and less from the publisher. This will have significant implications to copyright. The ultimate result will be direct output of text from the information-retrieval system -- the user will get the document on demand from the computer as opposed to having it sent to him from a publisher. Perhaps the cost to the user would be $1.00 a page.

A study of the availability of mechanized equipment to authors of scientific and technical journal articles indicated that a surprising number (about 20-30 percent) had access to terminals. Even more had word processing machines and electric typewriters available. The capability exists to get a more direct type of input. Mr. King anticipated that the future electronic delivery system will produce a better product than some now think and that when this happens, use of such products will rise considerably.

How does a person write to take advantage of this system? The cost of writing will increase along with other advancing costs, but time of the author will be saved, and this time can be devoted to other creative activities. This Commission will need to be concerned with the entire medium of transmission in dealing with technologies and copyright.

Discussion turned to the relationship of future changes in the publication and dissemination of materials to licensing the right to reproduce published materials. The author, or the publisher with consent of the author, owns the copyright; no one can reproduce the copyrighted piece without the author's (or publisher's) consent, aside from reproduction under the "fair use" principle. How will the new way of getting materials to the consumer more quickly through the computer affect the author's power to hold copyright or to permit copying without charge or with payment of royalties? Under this new system will the author be reimbursed in a different way?

The search for answers to these questions will get to the heart of the Commission's concerns. As electronic publishing networks develop, there is the possibility that the publisher will be bypassed. For example, a publisher may put together a teaching package for use in a network; at some point someone could revise a part of this package and keyboard in the revision without knowledge of or consent of the publisher. How can such an infringement be prevented?

It was pointed out that the technological changes do not alter copyright per se -- the author retains his property right, but the method of payment as a consequence of this new way of dissemination may change the nature of publishing contracts.

The rules, of course, differ in various situations. A commercial concern owns its patents; teachers, however, may create packets that are not copyrighted. The employer in the private sector may own the copyright; this is not the case in universities.

The National Commission is concerned with what the law should be in view of these anticipated technological changes. Will this computerized dissemination justify taking from the author his right to exercise some control over the reproduction of his work?

The importance of considering the word and the way words are used in a work must not be overlooked, the discussion brought out. Copyright protects the way words are used. Much of the presentation of new systems pays little attention to what is written or how it is written. "Yet there is a responsibility to the culture to think about the word and what it means in the long run," Mr. Hersey emphasized. "Some professors write works of though. ... It is hard to make the necessary distinctions unless there is a line drawn between 'bytes' put into a machine and 'words' used by an author." Mr. Hersey referred to differences in reporting in a technical article the results of scientific search and creative writing that has to do with thought. Distinctions in the use of words in these different types of writing must be kept in mind.

Mr. Nimmer spoke of the distinction between the idea or fact and the manner of expressing that idea or fact. It is the expression that is subject to copyright rather than the facts. The newer methods for dissemination will mean more efficient and broader access to information. How will this relate to the question of whether the author should have less rights to his work? Should an author's consent be required before his work is input into a data base? Under the new technology should the authors have less rights than they presently have?

Mr. Miller spoke of the Commission's responsibility to look at the new delivery systems and determine "whether the private ordering regime is adequate or whether copyright should be changed to assure greater dissemination to a broader segment of society."

In summing up the purposes of the presentations at this meeting, Mr. Levine explained that the purpose has been to provide a framework to assist the Commissioners in framing the questions they should address. One new communications method involves the scientist putting his words directly into the computer.

February 13, 1976:

10. Information programs of a professional society was the subject addressed by Dr. Seldon Terrant, Head, Rand D Books and Journals, American Chemical Society. He used ACS' information programs as illustrative of a professional society's approach to information.

The American Chemical Society has 110,000 members, whose dues partly support the Society's functions. The publication activities, however, are required to be self-supporting. The Society is governed by an elected Council, reporting to a Board of Governors. The staff numbers between 1400 and 1500. Activities, which are divided between Washington,

D. C. and Columbus, Ohio, are organized in 4 divisions, each of which has some information activity:

Membership Division
Public, Professional, and International Communications Division
Books and Journals Division
Chemical Abstracts Service (located at Columbus, Ohio)

An annual budget of 32-35 million dollars is required to support the total program; about 30 million of this is involved in the publications activity. Several types of information are disseminated:

Informational services that alert users to current developments in scientific and technical areas;
Archival information
Review, state-of-the-art information
News -- such as the Society's Chemical and Engineering News

Traditional printed information services involve journals, magazines, newspapers, microfilm and microfiche, magnetic tape, cassettes, radio. Scientific and technical information breaks down into two categories: primary (new, first published) and secondary (abstracting and indexing services, such as Chemical Abstracts). Subject coverages of the Society are: chemistry, chemical engineering, and some peripheral areas, such as biology and physics.

Economic considerations bear upon the answers to such questions as: What should be covered? In what areas does one try to provide service? What should be omitted? ACS does not have a clearly defined mandate as to what it should provide to its members and others. The question remains as to whether it should try to publish and maintain some information service which is not self-supporting.

Examples were given of the Society's publications: an alerting, table-of-contents service covering 700 journals (with titles, authors of articles, and citations published); a magazine, defined as a publication having staff involvement in the preparation of state-of-the-art stories; some 16 journals, to which manuscripts of articles are voluntarily submitted to peer reviews. Contributors of articles are not compensated. Although journal publication is supported by subscription revenue, about 60 percent of the authors pay "voluntary page charge" ($50 a printed page). "These charges are a recognition on the part of the author and publisher that there is money involved in converting from typescript into the final printing of the publication." Of ACS' 7 million dollar journal publication budget, about $850,000 comes from page charges. In some cases the institution employing the author may put up the money, or the page charge may be paid from a grant received by the author. ACS holds the copyright. Dr. Terrant assumed that authors were consulted about requests to copy their journal articles, although he was not certain. The author would be permitted to republish his journal article if he gave recognition to the

original publication source. ACS does not share any fees it receives with the author, and it does not charge a fee for use of journal articles if credit is given to the ACS publication. Wholesale usage might raise different questions, however.

Journals are priced as reasonably as possible -- ACS is trying to keep subscription prices low enough to serve the individual subscriber. Libraries pay about $3000 a year now for Chemical Abstracts. There are various packages of abstracts to meet needs of different users.

In the last decade the Society has been moving toward a computer-based information system, the largest example of which is the Chemical Abstracts activity in Columbus, Ohio. This operation now involves one keyboarding of information onto magnetic tape, and computer manipulation of the data. Beginning in 1965 Chemical Abstracts has offered a magnetic tape service, including a publication providing full text of the abstract. The leasing or selling of these services to libraries and other users is bringing 18 to 19 million dollars in revenue. The computerized processes permit more flexibility in the packaging of information in the data base. The magnetic tape and microfiche services are copyrighted by the Society. They remain the property of ACS if it is leased to and manipulated by a user. If that user incorporates the ACS product in another service, royalties must be paid to ACS. Such leasees are permitted to utilize the leased information at their location, but they do not have the right to resell it; the copyright is retained by ACS.

Information processing centers lease ACS magnetic tape and make contracts with persons who wish to search the tape or buy services provided by that data. Again, royalties must be paid by the contractor to ACS.

Journal production in ACS is moving toward a fully mechanized data base, with offset printing from camera-ready copy. Increasing costs are emphasizing the need to find ways to reduce the number of pages of journal articles. There has been some consideration of mission-related research -- industrial safety, environmental interests, etc. Bibliographic references and abstracts in these areas could be packaged.

In regard to microfilm-handling, ACS includes within the microfilm lease a copying charge. A journal subscriber who wants a microfilm counterpart will recive it after a year has passed and the film has been packaged. The microfilm lease permits the subscriber to copy the data on the film. Under such an arrangement a subscriber may also copy hard copies he receives through his subscription. By leasing the microfilm copies instead of selling them ACS retains the copyright and can recall the film.

The research and development effort is important to the future technological possibilities. Dr. Terrant's activities in Washington are not yet connected on-line with the activities in Ohio. The problems connected with graphic reproductions on tape were touched upon, as were also the possibilities for mechanization of journal editing. The time may come when electronic journals will be more commonplace, and users will dial to receive information and images at a video display terminal. Dr. Terrant foresaw the opportunity for this kind of communication within the next decade, but he did not know about the possible impact this might have on copyright.

11. Information Programs Involving Numeric Data Bases were discussed by Dr. Charles B. Warden, Vice President, Data Resources, Inc., a firm specializing in economic forecasting and consulting. Its 600 clients include Federal and State governments and major corporate and financial institutions.

Dr. Warden described the application of the computer to the forecasting, planning, and management of public and private affairs through the use of very large numeric data bases.

High speed computers and time sharing now permit economic analysts to be supplied with instant access to large quantities of data previously almost inaccessible. A National Economic Informatin System, such as the Data Resource System, has five key elements: A large computer, widespread communications network, powerful common language software, comprehensive and easy-to-use data banks, and carefully managed forecasting models. In the interest of economy, the computer must be able to serve many simultaneous users and it must be particularly efficient in managing large data bases. The Data Resources System runs on a 4-processor Burroughs 7700 computer with 1 million words of main memory. The data storage components contain 5-1/2 million bytes of high speed disk packs. It is the largest computer operation devoted solely to an economic information system.

DRI's telecommunications extend across Europe, North America, and Japan on a regular basis. Improvements are needed in the telecommunications area, particularly in regard to international links. DRI uses the Tymshare network on a shared basis, but Tymshare will not be allowed to operate internationally. Until some of the current problems are resolved, international communications will suffer for a year or more.

The system's programming language supplies a full range of mathematical, statistical, model simulation, data management, graphic, and data display techniques. "A key feature ... is the ability to manage a cascading sequence of models" ... to forecast it is necessary to simulate a number of models sequentially -- macro models, then sector models, then company models -- where at each step the key forecast variables are passed on to the next stage."

From the standpoint of business planning, the computer's increasing capability to store and retrieve large quantities of data easily and quickly has been highly significant. For the U.S. economy DRI provides access to almost 30,000 key data series (economic observations on a particular subject, such as unemployment, constitute a series) which are updated within an hour of release by the government agency. Another one-half million secondary series on industries and companies are updated within several days of release.

Today DRI maintains data banks on every country outside the Communist bloc. "Data banks should be accurate, timely, comprehensive in concepts and in history, logical in structure, and properly documented." Data banking has become a technical craft with its own professional scandards.

"Econometric models enable us to forecast the likely course of the data we watch as indicators of business health." Models enable one to assess the impact of policy changes by outside forces in the economy like the government or OPEC and by decisions within our own companies about issues like prices, capacity, or new products." DRI's forecasting models, containing over 3000 equations, all on-line and available to the user for his own simulations, cover the major industrial economies of the world in Europe, North America, and Japan. There are also hundreds of detailed industry equations, and the models built by users are linked to the system.

In response to questions about modeling, Dr. Warden explained that a model is a group of organically sensible information representing "what a particular thing should be like." Observations can then be weighed in comparison with the model and signals are provided to guide the observer in taking action. The use of mathematical models enables one to compute the difference between the expected and the actual. One can look, for example, at 50 years of reported data on the U. S. economy and decide whether the data are random, unrelated, or are organically sensible. That information can be fitted into an equation and forecasts can be measured against that equation. A model is a group of programmed equations.

The use made of such economic information to appraise the state of the overall economy (macro analysis) and to evaluate individual company or industry prospects (micro analysis) was discussed. Today most serious economic forecasting is done with use of econometric models, and separate individual models permit analysis of key sectors in the economy; steel, agriculture, foreign exchange rates, automobiles, commodities, industrial prices, airlines, petrochemicals, wood products, energy, retailing, banking, insurance, electric utilities, State and local government. The services in these special areas provide detailed analysis of basic importance to planners in these areas. Customers can dial into DRI from their terminals over regular telephone lines and can add data to DRI analyses to develop their own "company satellite models."

Models assist decision makers who want the best information possible, organized so that the data can be understood and fitted into the context of the decision-making framework. Numeric data bases have become important as a part "of a technological team of men, machines, and information. The challenge is for management to learn to take advantage of this new technology."

In response to questions, Dr. Warden indicated that Data Resources services are sold by subscription with the fees giving the customer annual access to various pieces of the information system. Subscriptions range from $1500 a year for access to the U. S. data base to $175,000 a year for use of all data bases, support, models dealing with a particular industry's problems. Packages of services in the different fields vary in price (chemical industries, $25,000; age, $50,000).

There were questions about subscribers (every major Government agency subscribes), security of the data (a variety of guard files limits access of a user to the information; some information can be read but not copied; certain system restraints provide security), secondary distribution (DRI manufactures and sells a service; the contract of sale prohibits secondary distribution; the client is prohibited from giving away the

forecast), high computer fees (a subscriber may dislike the fees, strip DRI data banks and put the data on its internal system; this usually does not work because the DRI excellent programming and management of the data adds to the value of the service; quality is built into the DRI service by professional management of the data system), copyrighted data in the system (there is some and these data are protected), royalties for use of copyrighted data (would be paid by user; adjustments made to data in the public domain could be copyrighted, although this has not been fully explored). Dr. Warden mentioned that DRI's principal protection comes from the ability "to run faster than the competition." The figures or facts are not copyrightable, Mr. Nimmer added, "it is only what you do with those facts, their selection and arrangement that is copyrightable." The arrangement of the data compiled to reach a conclusion would be copyrightable. If the customers use DRI's arrangement of figures and facts for their own purposes, there may be infringement. DRI publishes tables of data, texts, and charts, and copyrights everything it publishes.

In response to the questions as to the kind of legal protection that is most needed to protect an information company's investment, Dr. Warden agreed to explore with his legal staff further possibilities of what could be done to provide information services with the legal protection they need and to make further ideas available to the Commission.

12. Discussion

The Commissioners reviewed the relevance of the state-of the-art presentations at this meeting to the work of the Commission. As Mr. Lacy explained, it seems necessary for the Commissioners to become familiar with the new technological uses that have been described. He saw a number of questions emerging. For example, should the Commission address itself to the matter of the proprietary status of computer software? Mr. Lacy felt that the Commission's mandate includes this. Ms. Ringer indicated that Congressman Kastenmeier had expressed the view that computer programs (software) may not be under the mandate. Mr. Lacy pointed out their relationship to the Commission's other concerns. Computer programs are copyrightable. The question arises whether some provision analogous to a performance right is needed for computer programs?

Mr. Sarbin expressed his satisfaction with the opportunity afforded by this meeting and the IBM presentation to become more informed about technical uses of data. On the basis of these presentations concerning technological applications, the Commission staff can indicate the questions requiring the attention of the Commissioners. Mr. Levine agreed to send to Commissioners in advance of the next meeting a list of questions that the Commission should address together with suggested methods of operating to get answers to these questions.

Ms. Karpatkin pointed out that discussions are useful but they should be preceded by distribution of a paper describing the application of the discussion to the Commission's deliberations. Staff-prepared back-up papers distributed in advance will enable the Commissioners to make intelligent decisions more quickly and move forward with their work.

Ms. Karpatkin moved that before the next meeting the staff prepare a proposed "plan of action for the Commission with a timetable through the life of the Commission, a set of questions that the Commission must deal with and perhaps some discussion of them, an outline of what will be taking place at the next meeting with appropriate supplementary materials, and a presentation by the staff as to the relevance of the meeting to the Commission's work and what we should be focusing on as we listen." Mr. Sarbin seconded the motion.

Mr. Miller spoke of the need now to define the issues. "We need a plan of action from here to the end with questions grouped in subject areas -- a research plan." Mr. Miller saw the need perhaps for research staff knowledgeable in the areas of concern -- experts who can prepare policy papers on option possibilities.

Mr. Nimmer joined in these expressions. One possibility may be contracting with experts for policy papers in designated areas. However, the Commissioners must generate the issues. If there is copying of copyrighted material by the new technology, how does it occur? In what form does it occur? How can we be aware of such copying? What controls should there be?

Although the Planning Subcommittee has suggested that the computer problem be addressed first, the photocopying issue is also before the Commission and expert information in this area is needed also. Ms. Wilcox emphasized that the task of the Commission is to protect copyright while at the same time assuring access.

Mr. Cary felt that the photocopying issue is the more susceptible area of resolution at this time. Our time schedule may make it necessary to give earlier attention to photocopying. There will need to be examination of the technology as related to photocopying -- what is forecast for the future beyond present use of the Xerox machine.

Mr. Lacy mentioned that if the Copyright Act is revised by fall, the situation in regard to the photocopying issue will be different. The Commission can of course consider how effective the new photocopying provisions are, but it will have freer hand if copyright revision came later. He saw some difficulties in requiring the staff to circulate too much before the next meeting, but it would be helpful if parts of a plan of action could be distributed as far in advance of the next meeting, as they are completed, with a request for comments to be sent back to the staff.

Additional staffing was then discussed. A plan of action should be developed and approved before more people are hired, Ms. Karpatkin suggested. Mr. Levine spoke of the need to get the right people -- he has hired 2 excellent staff assistants in the last month and there is need for more staff. The need for a plan of action for consideration by the Commissioners in order to determine what kinds of additional staff are most needed (lawyers, analysts, etc.) was stressed.

Discussion returned to the motion; it was amended to direct the Executive Director to develop and send to Commissioners by March 24 a proposed plan of action, a timetable through the life of the Commission,

the set of questions and some discussion of them if possible, an outline for the next meeting with background materials and an explanation of the relevance of the agenda to the Commission's work. The motion was carried.

Returning to the matter of staff, it was mentioned that a statement of the functions of the staff needs to be drawn up. The compilation of data to be obtained through hearings is a staff function, and the staff must be able to keep a continuous flow of paper coming to the Commissioners in order to expedite the work program.

Mr. Levine mentioned earlier authorization to hire a staff of 16; he needs more people and has found a person with a combination of legal and computer expertise. In response to questions about staff assignments, Mr. Levine outlined the duties: preparation of position papers in advance of the next meeting, work on the plan-of-action, development of plans for the next meeting, compilation of data on photocopying, etc. It was mentioned that Ms. Karpatkin had offered to have the Consumers Union's policy analyst discuss with Mr. Levine how such a person might work with the Commission. Judge Fuld indicated that it would be desirable to hire the staff needed. Mention was again made of the need for a plan of action and a time schedule before staffing much further. Present staff in addition to the Executive Director and Assistant Executive Director are a secretary and 3/4 time of another, administrative officer, administrative assistant, and 2 attorneys.

On the basis of Mr. Levine's report on the excellent qualifications of the computer person he wishes to hire and his need for an additional secretary, he was authorized to hire these 2 additional people. Further hiring should await development and approval of a plan of action, timetable, and determination of how best to further the work of the Commission.

Mr. Hersey suggested the value of an opportunity at the end of each session to exchange impressions of what has been heard. He suggested further the desirability of thinking in terms of "a separation of the rights of authors of journal articles and authors of other materials" rather than simply thinking of whether literature should be treated in some different way in terms of copyright provision. Authors of journal articles differ from writers dealing with ideas. Traditional copyright protects integrity of the text. The presentations at this meeting have related to the need to protect the integrity of the information. These are different problems. NLM's interpretation that because his is not paid an author has no rights seems unacceptable. It may be necessary to think of a protection similar to the patent concept of a limited set of rights that an author of a technical article should have. If a definition of the authors' rights in journal transactions could be agreed upon, alot of the concerns in regard to paragraphs 107 and 108 of the revision bill would fall into place. Many of the issues about photocopying which center around journal articles and computer uses of such material might be resolved if we think of them as a different category of authorship. The author of the technical article may have some interest in how his material is used.

Mr. Nimmer had some reservations about distinctions between facts and works of authorship. How does one determine what is data and what is creative writing? While the facts per se may not be copyrightable, the manner in which the facts are expressed is copyrightable. Perhaps the distinction is between the expression of the author as distinguished from the fact expressed. There is obviously a mass of factual data that should be protected. The existing law may draw the line we need.

Mr. Hersey felt that perhaps the journal author should have limited rights. There are other rights than money -- a journal author may be interested in how his language is preserved and protected. Is it proper that the publisher holds all these rights as the presentations would indicate? Should there be a property right which the technical author can give away to the publisher if he wishes to do so? If so, when should this right be transferred? What are the dimensions of this right? Should we assume that all copyrights are created equally? Should the law provide the same kind of rights to the proprietor of a data base as to a writer of literature? Should there be a distinction between a journal and a magazine or should the rights be the same? If there is a distinction, how should this be expressed in copyright? These are questions that will need to be addressed.

13. Ms. Ringer reported on the status of the Copyright Revision Bill. An issue still under discussion is the extent to which libraries can engage in the exchange of photocopies in lieu of subscribing and distributing hard copies. In journal literature 90 percent of the items lent are photocopies rather than hard copies. The proposal under consideration would differentiate between this wholesale copying and ordinary interlibrary loan. If a user wants a complete work or a substantial part of a work in the library's collections, he can have a copy if the work is out of print or not readily available at a fair price. But other issues would be raised in connection with interlibrary loan and networking. A differentiation would be drawn between requesting libraries and supplying libraries. A library borrowing a photocopy from another library through interlibrary loan to pass on to a reader would get it free if the requesting library certifies to the supplying library that it did not have any reason to buy the original or subscribe to the title.

The responsibility for establishing criteria with respect to the question of demand would be that of the Copyright Royalty Tribunal.

If libraries could get this kind of service from a publishing group, and get it just as quickly and inexpensively, they might deal with publishers rather than another library. Under the proposal a system would be established whereby the Tribunal would establish standards under which prices, turnaround time, and announcement of availability would be published. The categories of works falling under this arrangement would be published. Thus, a library would know whether a particular item were available.

14. The next meeting of the Commission will be April 1-2 in New York. On motion of Ms. Wilcox, and a second, it was agreed to defer action on photocopying and continue to work in the area of implications of future technology. The staff will develop a statement of issues.

Future meeting dates suggested: May 6-7 and June 3-4.

Marlene Morrisey
Library of Congress
March 4, 1976